**Unit Planner Algebra 2 Chapter 2 Technology Differentiation Critical Thinking**

**Teacher: Solek Unit Title: Linear Relations and Functions**

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| **Standards / Benchmarks:**  N 3 Use number sense to estimate and determine if solutions are reasonable  N 5 Selecting and using appropriate computational methods and tools  N7 Justifying reasonableness of solutions and verifying results  A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations  A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities  A4 Solving algebraic equations  M 4 Demonstrate the concept of measurement as it applies to real-world experiences  G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three  dimensions  G3 Solving problems using coordinate methods as well as synthetic and transformational methods  G6 Demonstrating deductive reasoning and mathematical justification  D2 recognizing that data that relate two variables as linear, exponential or otherwise in nature  D7 Making inferences from data in charts tables and graphs  P1 Model the concepts of variables, functions and relations  P2 Translating between tabular, symbolic or graphic representations of functions  P5 Analyze real-world relationships that can be modeled by elementary functions | | |
| **Standards Analysis:**  **What the student should know:**   1. Identify relations and functions and find function values numerically, analytically, and graphically. 2. Graph linear, absolute value, recognize piecewise-defined, and step functions. 3. Graph linear inequalities. 4. Write equations of lines. 5. Identify the slope and intercepts of a line analytically, graphically, and numerically.   **What the student should be able to do:**   1. Analyze and graph relations 2. Find functional values 3. Identify linear equations and functions 4. Write linear equations in standard form and graph them 5. Find and use the slope of a line 6. Graph parallel and perpendicular lines 7. Write an equation of a line given the slope and a point on the line 8. Write an equation of a line parallel or perpendicular to a given line 9. Draw Scatter plots 10. Find and use prediction equations 11. Identify and graph step, constant and identity functions 12. Identify and graph absolute value and piecewise functions 13. Graph linear inequalities 14. Graph absolute value inequalities | **Critical Questions or Statements**:   1. What are the advantages and disadvantages of each method for graphing linear equations? 2. What makes a relation a function? 3. Why are there different forms for writing linear equations? | **Relevance:**   1. Students will be encouraged to recall the graphing from Algebra 1 using the quick method of y = mx + b. 2. Graphing calculators will be utilized to connect this idea with technology. 3. Real world problems will be discussed regarding profits 4. Students will be encouraged to recall slope and identify the meaning of direct variation, both increasing and decreasing |
| **Pre-assessment tools / strategies:**   1. Chapter 1 Cumulative Review activity 2. Getting started activity p. 85 in text 3. Daily online self checks @glencoe.com 4. 5 minute checks in resources | **Differentiation strategies:**   1. Think pair share 2. Work with a group formed by Kagan strategies 3. Create your own problem, share with group 4. Present your reasoning 5. Choose \_\_\_\_problems from this assignment 6. Create your own quiz/test on a given objective 7. Find the error in the problem shown |

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| **Final Assessment(s) - Body of Evidence:**  Regression Project in text book  Test 2   * Graphing Linear Equations * Writing Linear Equations * Functions and Relations | **Instructional Strategies:**   1. Powerpoint slides uploaded as graphic organizers for note taking in one note 2. Examples presented in a number of ways—  * Teacher on board * Student on board * Student in one note * Student on poster * Teacher on power point * Teacher on one note  1. Calculators utilized to determine regression lines---after topic is fully investigated using graphs and graph paper |
| **Formative assessments / assignments**   1. Skills 2.1 2. Skills Practice 2.2 and 2.3 3. Study Guide 2-4 4. Quiz 5. Study Guide 2-5 6. Graphing Calculator Investigation p. 85 7. Study Guide 2-6 8. Study Guide 2-7 9. Quiz 10. p. 105 # 1-33 | |